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REVENUE FORECAST

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STATE OF SOUTH CAROLINA  
BOARD OF ECONOMIC ADVISORS

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To: South Carolina Budget and Control Board

Subject: South Carolina Board of Economic Advisors Revenue  
Forecast, February 10, 1989

The Board of Economic Advisors is required by Section 11-9-880 of the 1976 Code of Laws to make a final forecast for the next fiscal year on February 15. The February forecast for Fiscal Year 1989-90 is provided herein.

The national economy has performed essentially as projected in the Board of Economic Advisors reports of October and December. The expectation at that time was one of continued but uneven expansion, with real growth averaging 2-2.5%, inflation of 4.5-5%, and nominal growth of 6.5-7.5%. In South Carolina it was anticipated that growth would be at or possibly somewhat above national rates. Data for the national and South Carolina economies as they are released reinforce these expectations. Growth of personal income and employment has been favorable, and at forecast levels, while unemployment rates in South Carolina have dropped to lows not reached since 1973. The seventy-five-month expansion, the second longest in the post World War II period, is being supported by a strong export sector. South Carolina with its heavy concentration in manufacturing is participating in the expansion both through strength in exports and in

production of import substitutes for the national market.

Looking ahead, the expectation from the national forecasters now is for somewhat more growth in 1989 and less likelihood of a recession in 1989 than had been earlier assumed. While the consensus is for a 25% probability of a recession during the forecast period through June 1990, there is also the view of the majority of mainstream economists that there will be a slowing in real growth from the current 2.5% rate to 1.5-2% in FY 1989-90. This is somewhat less real growth for next year than in the earlier forecasts. Inflation is expected to be somewhat higher than had been anticipated, in the 5-5.5% range for FY 1989-90 from the 4-4.5% of FY 1988-89.

The situation in South Carolina should follow the pattern in the national economy, with real growth of 2.5% in FY 1988-89 dropping to 1.5-2% by the end of the forecast period. With inflation at 5-5.5%, personal income in South Carolina should increase at rates of 6.5-7.5%. This is about the nominal pace that had been anticipated at the time of the October forecast but with an altered mix of more inflation and less real growth.

The revenue picture in South Carolina has been a favorable one. The economy has performed as anticipated, but revenues, particularly the Individual Income Tax, have been stronger than had been estimated. The Corporate Income Tax has also produced revenues above those that could have been expected based on last year's collections, as conformance to the Federal Code has apparently begun to take effect with a decided lag. The All Other Category has also received a boost mainly from additions to Earnings on Investment and insurance taxes. The Sales Tax, on the other hand, has been on target. Unlike the

Individual and Corporate Income Taxes which have been influenced by conformance to the Federal Code, the Sales Tax can serve as a control in verifying underlying relationships between the growth in the economy and revenues on which the forecasts were based.

Given these considerations, with overall collections to date running well ahead of those estimated in October, the most probable outcome for FY 1988-89 at this time is that revenues will be \$45 million above the estimate made for the November 1 forecast. The FY 1988-89 forecast of \$3102.7 million will thus change to \$3147.7 million. FY 1989-90 General Fund Revenues will be affected positively by the upward adjustment to FY 1988-89 anticipated revenues. The net effect will be to raise the estimate for FY 1989-90 also by \$45 million to \$3325 million.

Details of these adjustments appear in the accompanying tables. It should be noted that there are many uncertainties in the economic outlook, especially the budget and trade deficits, and the response of foreign financial markets to them, the overhanging cloud of our international trade position, and the Federal Reserve's capability of achieving its targeted growth rates without doing harm to the economy. As a final note of caution, there should be added to President Reagan's adage that recoveries do not die of old age, the warning of economists that recoveries do become more vulnerable to internal adjustments and dislocations and in particular to external shocks.

Board of Economic Advisors

W.R.P.

February 10, 1989

TABLE I

GENERAL FUND REVENUES  
Forecast 1988-89 and 1989-90  
In Millions of Dollars

	ACTUAL 1987-88	REVISED 1988-89	REVISED 1989-90
TOTAL GENERAL FUND (1)	2938.4	3147.7	3325.0
Total Regular Sources (1)	2887.3	3105.4	3285.0
Sales Tax (1)	1006.2	1075.0	1118.6
Individual Income Tax	1142.2	1245.4	1347.4
Corporation Income Tax	196.2	232.0	239.0
All Other	542.7	553.0	580.0
Miscellaneous Sources	51.1	42.3	40.0
Education Improvement Fund	251.1	268.75*	279.65*
Interest on Education Improvement Fund	1.7	1.9	1.9
TOTAL	252.8	270.65	281.55

	<u>RATES OF CHANGE**</u>	
TOTAL GENERAL FUND	7.1%	5.6%
Total Regular Sources	7.6	5.8
Sales Tax	6.8	4.1
Individual Income Tax	9.0	8.2
Corporation Income Tax	18.3	3.0
All Other	1.9	4.9
Miscellaneous Sources	-17.1	-5.4
Education Improvement Fund	7.0	4.1
Interest on Education Improvement Fund	13.1	-
TOTAL	7.1	4.0

(1) Net of Education Improvement Fund.

\* One-fifth of total sales tax.

\*\* Percent change based on unrounded figures.

TABLE II

TOTAL GENERAL FUND REVENUES  
 QUARTERLY ESTIMATES  
 Fiscal Years 1988-89 and 1989-90  
 (In Millions of Dollars)

	FY 1988-89 -----	FY 1989-90 -----
FIRST QUARTER	781.4 *	829.2
SECOND QUARTER	1561.8 *	1667.8
THIRD QUARTER	2307.0	2431.5
FOURTH QUARTER	3147.7	3325.0

PERCENT OF TOTAL REVENUES  
 COLLECTION BY QUARTER

	FY 1988-89 -----	FY 1989-90 -----
FIRST QUARTER	24.8	24.9
SECOND QUARTER	24.8	25.2
THIRD QUARTER	23.7	23.0
FOURTH QUARTER	26.7	26.9

\* Actual collections.

Board of Economic Advisors  
 February 10, 1989

REVENUE FORECASTING PROCEDURES  
BOARD OF ECONOMIC ADVISORS  
FISCAL YEARS 1989 AND 1990

The procedures and methodology of the Board of Economic Advisors in the preparation of the final revenue forecast for Fiscal Year 1989-90 as of February 10, 1989 involved three major stages: 1) providing the economic background and setting at the national and State levels for the revenue forecasts; 2) interpreting recent and historical revenue relationships; and 3) interacting with officials of other states with responsibility for revenue forecasting.

The Board members consulted as in the past with experts and professional economists for economic intelligence gathering. A meeting was held on January 30, 1989 in Columbia, South Carolina with the newly formed Advisory Council to the Board of Economic Advisors for this purpose. Members of the Advisory Council present were: J. Alfred Broaddus, Jr., Ph.D., Senior Vice President and Director of Research, Federal Reserve Bank of Richmond; Ben E. Laden, Ph.D., Economist and Partner, Maryland Capital Management, Inc.; James A. Morris, Ph.D., Distinguished Professor of Economics Emeritus, University of South Carolina; Ronald P. Wilder, Ph.D., Chairman, Department of Economics, University of South Carolina; Bruce L. Williams, Corporate Economist, Souther Bell Telephone Company; David A. Wyss, Ph.D., Senior Vice President and Chief Financial Economist, Data Resources, Inc.; and Bruce Yandle, Jr., Ph.D., Alumni Professor of Economics, Clemson University. On February 8, 1989 briefings for Board of Economic Advisors members were held with staffs of the State Treasurer, Comptroller General, Tax Commission and the Board of Economic Advisors. The purpose of the meeting was to discuss State revenue sources and how these are handled in the State's system. A meeting of the Board of Economic Advisors was held on February 9, 1989 in preparation for the February 10 Report. The resources of the national forecasting groups by which the SCOPE model, when operative, and other forecasts are driven, Data Resources, Inc., Evans Economics, Inc., and Wharton Econometric Forecasting Associates, were available weekly and monthly to Board members. Materials from a variety of sources--international, national and state publications--were also made available to Board members.

Board of Economic Advisors  
February 10, 1989

## BRIEF OVERVIEW OF THE SCOPE MODEL

The SCOPE (South Carolina Operations Planning and Evaluation) Model was initiated in 1972 in the Office of Chief Economist (originally in the Governor's office). It was designed and operated as a policy and forecasting tool for top level executive, legislative and management decision making. SCOPE is an econometric model designed to reflect the South Carolina economy and to forecast the performance of major economic variables in the State, particularly tax revenues, employment and income. The model is based on a framework of economic activity in the State relative to national economic activity with approximately 85 exogenous national variables provided by leading national forecasting services such as Data Resources, Inc., the WEFA Group, and Evans Economics, Inc.

The SCOPE core model consists of 63 equations, of which 55 are stochastic\* and eight are identities. SCOPE attempts to reflect the diversity of the South Carolina economy by including 20 industrial sectors of manufacturing and nonmanufacturing employment, and a series of equations for wages, personal income, unemployment, taxable sales and State tax revenue.

### Durable Manufacturing Employment

The durable manufacturing employment block consists of six stochastic equations for the major industries in the State as reported by the South Carolina Employment Security Commission. The employment equations for each separate industry are expressed as a function of a national consumption expenditure index appropriate for that particular industry, a national industrial production index corresponding to that industry and the national level of employment in that industry. The durable employment forecasts include the following industries: Lumber and Products, Stone, Clay and Glass, Fabricated Metal Products, Electrical and Nonelectrical Machinery, and Other Durables which includes Furniture and Fixtures, Instruments and Related Products.

### Nondurable Manufacturing Employment

The nondurable manufacturing employment block consists of seven stochastic equations for the major nondurable industries in the State. Like the durable block, the employment equation for each industry is expressed as a function of a national consumption index appropriate for that particular industry, a national industrial production index for that particular industry and the national level of employment in that industry. Employment forecasts are available for each of the following nondurable industries: Food and Kindred Products, Textile Mill Products, Apparel, Paper, Printing and Publishing, Chemicals, and Other Nondurables, such as Rubber and Miscellaneous Plastics Products.

\* Stochastic is defined as a type of modeling for time series analysis explaining future probability from historical experience.



## Nonmanufacturing Employment

The nonmanufacturing employment block is disaggregated into seven stochastic equations: Construction, Transportation and Public Utilities, Services, Trade, Finance-Insurance-Real Estate, State and Local Government, and Federal Government. Employment growth in these industries is specified as functions of State population, national employment in these industries and national consumption indices.

## Personal Income

The personal income block is composed of 11 equations, one equation for the unemployment rate, and ten additional equations for each of the ten major components of personal income as published by the Bureau of Economic Analysis, Department of Commerce. These equations are specified as functions of their respective national and State income and employment variables. In addition, equations are estimated for wage and salary disbursements for all major industries and are specified as functions of national wage trends and State employment levels.

## Revenues

The revenue section of the model emphasizes four major stochastic Regular Revenue Sources equations: 1) South Carolina corporate income tax, 2) South Carolina individual income taxes, 3) South Carolina retail sales tax, and 4) all other taxes. These equations are individually specified as functions of aggregate employment and income with their respective coefficients and constants. In addition, there are two stochastic equations for taxable sales and refunds.

The model is currently undergoing major revisions to incorporate recently developed econometric techniques and to reflect significant structural changes in the national and South Carolina economies.

# SCOPE MODEL

## SOUTH CAROLINA OPERATIONS, PLANNING & EVALUATION MODEL

